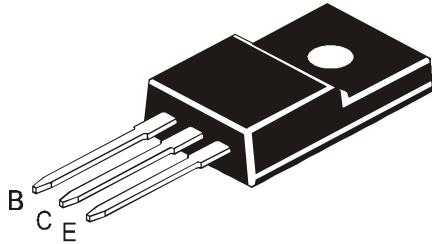


## SILICON PLANAR POWER TRANSISTORS



**CJF15028 NPN**  
**CJF15029 PNP**

**TO-220FP Fully Isolated Plastic Package**

**Designed for General Purpose Amplifier and Switching Applications**

### ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Base Voltage	$V_{CBO}$	120	V
Collector Emitter Voltage	$V_{CEO}$	120	V
Emitter Base Voltage	$V_{EBO}$	5	V
RMS Isolation Voltage (for 1sec, R.H. <30%, $T_a = 25^\circ C$ )	* $V_{ISOL}$ (a) (b)	3500 1500	$V_{RMS}$ $V_{RMS}$
Collector Current - Continuous	$I_C$	8	A
Collector Current - Peak	$I_C$	16	A
Base Current	$I_B$	2	A
Total Power Dissipation @ $T_c=25^\circ C$	$P_D$ **	36	W
Derate Above $25^\circ C$		0.29	W/ $^\circ C$
Total Power Dissipation @ $T_a=25^\circ C$	$P_D$	2	W
Derate Above $25^\circ C$		0.016	W/ $^\circ C$
Operating And Storage Junction Temperature Range	$T_j, T_{stg}$	- 65 to +150	$^\circ C$

### THERMAL RESISTANCE

From Junction to Ambient	$R_{th(j-a)}$	62.5	$^\circ C/W$
From Junction to Case	$R_{th(j-c)}^{**}$	3.5	$^\circ C/W$
Lead Temperature for Soldering Purpose	$T_L$	260	$^\circ C$

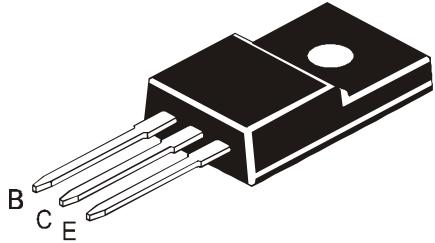
\*\*Measurement made with thermocouple contacting the bottom insulated mounting surface (in a location beneath the die), the device mounted on a heatsink with thermal grease and a mounting torque of  $\geq 6$  in.lbs.

\* RMS Isolation Voltage: (a) 3500  $V_{RMS}$  with Package in Clip Mounting Position (b) 1500  $V_{RMS}$  with Package in Screw Mounting Position (for 1sec, R.H.<30%,  $T_a=25^\circ C$ ; Pulse Test: Pulse Width  $\leq 300\text{ms}$ , Duty Cycle  $\leq 2\%$ )

### ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ C$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter Sustaining Voltage	* $V_{CEO(SUS)}$	$I_C=10\text{mA}, I_B=0$	120		V
Collector Cut Off Current	$I_{CBO}$	$V_{CB}=120\text{V}, I_E=0$		10	$\mu\text{A}$
Collector Cut Off Current	$I_{CEO}$	$V_{CE}=120\text{V}, I_B=0$		10	$\mu\text{A}$
Emitter Cut Off Current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$		10	$\mu\text{A}$
DC Current Gain	* $h_{FE}$	$I_C=0.1\text{A}, V_{CE}=2\text{V}$ $I_C=2.0\text{A}, V_{CE}=2\text{V}$ $I_C=3.0\text{A}, V_{CE}=2\text{V}$ $I_C=4.0\text{A}, V_{CE}=2\text{V}$	40 40 40 20		

\* Pulse Test: Pulse Width  $\leq 300\text{ms}$ , Duty Cycle  $\leq 2\%$

TO-220FP Fully Isolated  
Plastic PackageELECTRICAL CHARACTERISTICS ( $T_c=25^\circ\text{C}$  unless specified otherwise)

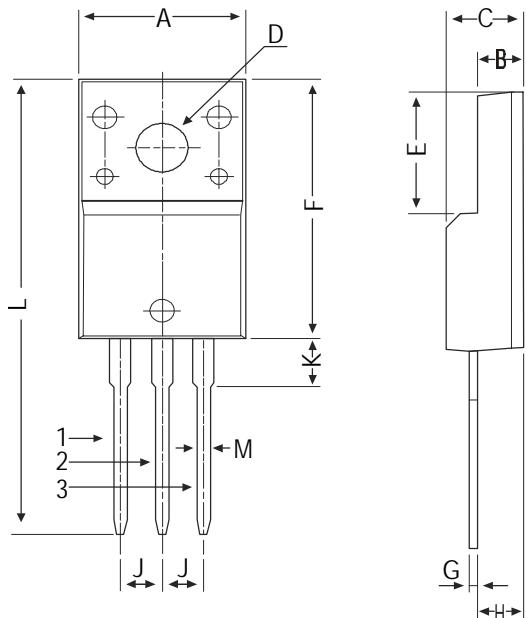
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter Saturation Voltage	$^*V_{CE(\text{sat})}$	$I_C=1\text{A}$ , $I_B=0.1\text{A}$		0.5	V
Base Emitter On Voltage	$V_{BE(\text{on})}^*$	$I_C=1.0\text{A}$ , $V_{CE}=2\text{V}$		1.0	V

## DYNAMIC CHARACTERISTICS

**Current Gain - Bandwidth Product	$f_T$	$I_C=500\text{mA}$ , $V_{CE}=10\text{V}$ $f_{\text{test}}=10\text{MHz}$	30		MHz
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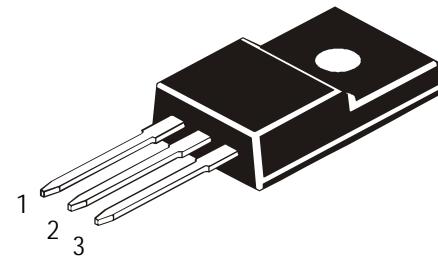
\* Pulse Test: Pulse Width  $\leq 300\text{ns}$ , Duty Cycle  $\leq 2\%$ \*\*  $f_T=Ih_{fe}I f_{\text{test}}$

### TO-220FP Fully Isolated Plastic Package



DIM	MIN	MAX
A	9.96	10.36
B	2.60	3.00
C	4.50	4.90
D	3.10	3.30
E	7.90	8.20
F	16.87	17.27
G	0.45	0.50
H	2.56	2.96
J	2.34	2.74
K	—	3.08
L	—	30.05
M	—	0.80

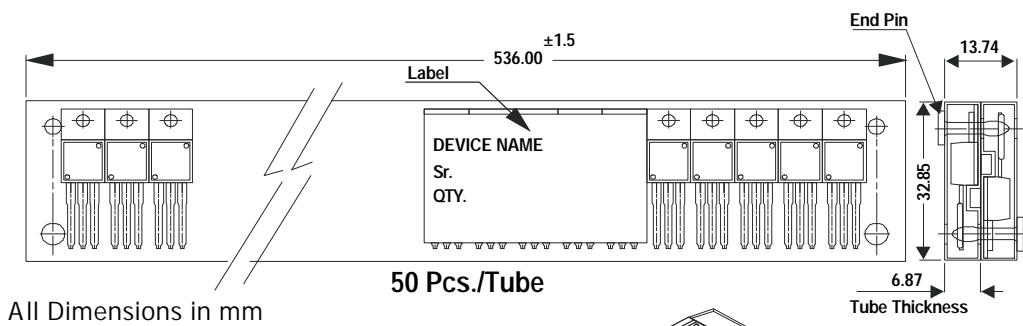
All dimensions in mm.



#### Pin Configuration

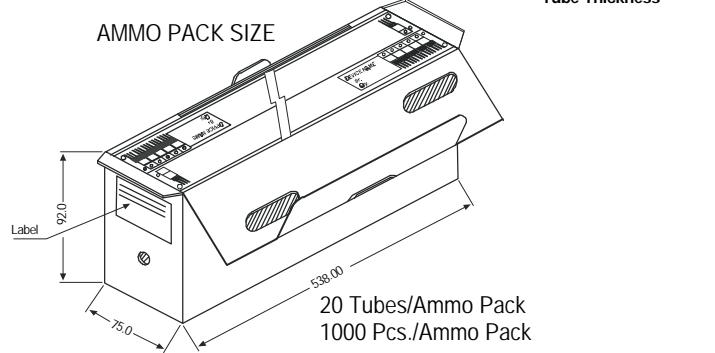
1. Base
2. Collector
3. Emitter

### TO-220 FP Tube Packing



All Dimensions in mm

50 Pcs./Tube



### Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-220FP	200 pcs/polybag 50 pcs/tube	396 gm/200 pcs 135 gm/50 pcs	3" x 7.5" x 7.5" 3.5" x 3.7" x 21.5"	1K 1K	17" x 15" x 13.5" 19" x 19" x 19"	16K 10K	36 kgs 28 kgs

**TO-220FP Fully Isolated  
Plastic Package**

### **Disclaimer**

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